

The Cold-Rolled and Recrystallization Texture
of Hafnium, by H. Muller,

GERMAN, per, Z. Metallkunde, Vol L, No 6, 1959,
pp 346-370.

ATB 511-3J

Sci - Min/Metals

Aug 60

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Theory of the Formation of S-Shaped Kink Bands in
Plastically Deformed Metal Crystals. II. Dislocation
Arrangement, Stability and Course of Development
of the Kink Band, by Hartwig Mueller, 18 pp.
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AEC ORNL-tr-385

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Sci-Materials & Metallurgy
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pp 356-363. 9225864
AEC-ORNL-Tr-296

Sci-Mat & Met
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61-10564

Pelzel, Erich.
THE SPECIFIC VOLUME OF SOLID AND LIQUID
ANTIMONY-BISMUTH ALLOYS (Das Spezifische
Volumen Fester und Flüssiger Antimon-Wismut-
Legierungen). [1960] [13]p. (5 figs. omitted) 17 refs.
Order from SLA m1\$2.40, ph\$3.30 61-10564

Trans. of *Z[eitschrift für] Metallkunde* (West
Germany) 1959, v. 50, no. 7, p. 392-395.

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1. Antimony-bismuth alloys--
Phase studies
1. Pelzel, E.

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(Metallurgy--Nonferrous Metals, TT, v. 5, no. 7)

Thomas H. and Wilke-Dorfurt, U.
THE INFLUENCE OF ADDITIONS ON THE AGE-HARDENING OF COPPER-BERYLLIUM ALLOYS.
[1962].

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PRI Trans-171

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1959, v. 50, no. 8, p. 466-472.
Another trans. is available from SLA \$1.60 ap.
62-16306 [1962] [20]p.

DESCRIPTORS: Aging, Hardening, *Copper alloys,
*Beryllium alloys, Cobalt, Nickel, Iron, Metallurgy,
Temperature, Atomic radii, Solubility, Precipitation,
*Alloys

For abstract see Technical Translations 8:704, 1962.

(Metallurgy, TT, v. 9, no. 1)

63-12174

I. Thomas, H.
II. Wilke-Dorfurt, U.
III. PRI Trans-135
IV. Fulmer Research Inst.,
Ltd. (Gt. Brit.)

Office of Technical Services

The Practical Evaluation of Internal Stresses, by
E. Houdremont, H. Scholl. UNCL

GERMAN, per, Z Metallkunde, Vol L, No 9, 1959.

*TIL 5109

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Carbomitrides of Tantalum, by Georg
Brauer, and Richard Lesser, 4 p.
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Vol L, 1959, pp 512-515. 9698830
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Sci-Chem
Mar 66

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Investigations Concerning the Tantalum-Oxygen System,
II. Reactions and Equilibrium States Between Mixed
Crystal and Oxide Phases, by E. Gebhardt, H. D.
Kghezzi,

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Gerold, V. and Haberkorn, H.
X-RAY INVESTIGATION OF COLD AGEING IN
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14 refs.
Order from SLA \$2.60

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Trans. of Zeit[schrift] für Metallkunde (West Germany)
1959, v. 50, no. 10, p. 568-574.

DESCRIPTORS: *Aluminum alloys, *Magnesium
alloys, *Copper alloys, *Zinc alloys, Aging, X-ray
diffraction analysis, Crystal structure, Lattices.

62-10590

I. Gerold, V.
U. Haberkorn, H.

(Metallurgy, T.T., v. 7, no. 11)

Office of Technical Services

Althof, F.-C. and Spindler, H.
THE INFLUENCE OF CATIONS ON INTERCRYSTALLINE AND STRESS CORROSION IN ALUMINUM ALLOYS. [1961] [22p. 14 refs.
Order from SLA m1\$2.70, ph\$4.00 61-10787
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151857

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1. Aluminum alloys--Stresses
 2. Aluminum alloys--Corrosion
 3. Ions--Physical effects
- I. Althof, F.-C.
II. Spindler, H.

(Metallurgy, TT, v. 5, no. 9)

Office of Technical Services

Reimer, Ludwig.

ELECTRON MICROSCOPE STUDY OF THE PRE-
CIPITATES IN AN ALUMINIUM-SILVER ALLOY
USING THE THIN SECTION METHOD (Elektronen-
mikroskopische Untersuchung der Ausscheidungen in
einer Aluminium-Silber-Legierung mit der
Dünnschliffmethode). 13 Jun 63 [13p] 7refs
Order from SLA \$1.60

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Trans. of Zeit[schrift] für Metallkunde (West Germany)
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I. Reimer, L.

(Metallurgy--Structural, TT, v. 11, no. 11)

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The Kinetics of the Reaction of Al With Fe, by
Th. Heumann.

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Research Regarding Diffusion in the Uranium-Zircon and Uranium-Nickel Systems, by H. Muller.

GERMAN, per, Z. fur Metallkunde, Vol L,
No 11, 1959, pp 652-660.

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Sci - Chem
Jul 62

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Thermodynamics and Kinetics of Sintering, by
Herbert J. Oel, 13 pp.

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ABC Tr-L226

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21 Feb 61

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Strength and Ductility of Metals at Subzero Temperatures, by A. Kochendorfer.

GERMAN, per, Z Metallkunde, Vol LI, No 2,
1960, pp 73-80.

HB 5104

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Magnetic Investigations of Body-Centred
Cubic Phases in Aluminum With Fe-Group
Elements, by Martin Hohl, 29 pp.

GERMAN, per, Z Metallkunde, Vol LI, 1960,
pp 85-95.

AEC Tr-4195

Sci - Min/Met
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List 45

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Investigation of Grain-Boundary Migration in Aluminum
Bicrystals, by Wilhelm Schmitten, Peter Haasen, et al,
27 pp.
GERMAN, per, Z Metallkunde, Vol LI, 1960, pp 101-108.
AEC-Tr-6284 9.22056 2

Sci-Mat & Met
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A Simple Optical Pyrometric Method for the Direct
Determination of the True Temperature of
Incandescent Metals, by Carl Tingwaldt, 13 pp.

GERMANY, D.R., Z fuer Metallkunde, Vol LI, 1960,
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ABC Tr-4387

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Continuous Thickness Measurement During Rolling
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GERMAN, per, Z fuer Metallkunde, Feb 1960,
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BIBI 1731

Sci - Engr

Mar 61

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Investigations of the Depth of Deformation Produced
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P. Lihl, H. Mayer, 19 pp.

GERMAN, per, Z Metallkunde, Vol II, 1960, pp 186-190.

AEC MP-Tr-495

Sci - Min/Met
Apr 61

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Interpretation of Electronmicroscopic Contrasts in the Transmission of Thin Crystals,
by H. Alexander.

GREIMAN, par, Z. fuer Metallkunde, Vol LI,
No 4, 1960, pp 202-209.

CAIRO

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Sci - Phys
Aug 62

An Improved Piezoelectric Method for
Investigating Processes in Metals During
Mechanical Stressing and During Phase
Transition, by H. Borchers, H. M. Tens.
GERMAN, per, Zeit. fur Metallkunde,
Vol 51, pp 212-218, 1960 9229612
AEC UCRL-Tr-1216-L.

ALSO TT-6E-18117

M&M
Oct 68

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The Structure and Magnetic Properties of
Aluminium-Manganese Alloys Containing
More than 25 AT.-% Manganese, by
E. Koster, E. Wachtel.
GERMAN, per, Zeit Metallkunde, Vol 51,
1960, pp 271-280.
NLL Ref: 9022.4 (68/128)

Sci-MRhys
Mar 69

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Bungardt, K. and Preisendanz, H. DAMPING CAPACITY AND MODULUS OF RIGIDITY OF ZIRCONIUM AND ZIRCONIUM-HYDROGEN ALLOYS. [1960] 16p. Order from ATS \$26.95	146,925	ATS-79M45G
Trans. of Zeitschrift für Metallkunde (West Germany) 1960, v. 51, no. 5, p. 280-289.		
<p style="text-align: center;">61-12398</p> <p>I. Zirconium alloys-- Mechanical properties II. Bungardt, K. III. Preisendanz, H. IV. ATS-79M45G IV. Associated Technical Services, Inc., East Orange, N. J.</p> <p style="text-align: center;">Office of Technical Services</p>		
(Metallurgy--Nonferrous Metals, TT, v. 5, no. 5)		

Alloys of Gold and Chromium, Molybdenum and Tungsten
by Ernst Röhlraub, 6 pp.

GERMAN, per, Z. Metallkde, Vol LI, No 5, 1960,
pp 290-291. 9069457

AEC-tr-S421

Sci - Min/Met
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Köster, W. and Hofmann, G. RESISTOMETRIC INVESTIGATION OF THE INFLUENCE OF LATTICE DEFECTS ON THE COLD AGEING OF Al-Zn ALLOYS. [1961] [20] p. 22 refs. FRI Trans. no. 152, Ges. für Metallforschung, A. 52, 60.	61-18843	I. Köster, W. II. Hofmann, G. III. FRI-Trans-159 IV. Fulmer Research Inst., Ltd. (Gr. Brit.)
<p>(61-18843) (018101)</p> <p>(over)</p>		
Office of Technical Services		

Pfeiffer, Imtraud.

ELECTRON DIFFRACTION STUDIES OF THE OXIDE LAYERS ON NICKEL-CHROMIUM AND NICKEL-CHROMIUM-IRON ALLOYS (Elektronenoptische Studien an Oxydschichten auf Nickel-Chrom- und Nickel-Chrom-Eisen-Legierungen). [1963] [23p] (foreign text included) 15refs
Order from SLA \$4.60

63-18592

Trans. of Zeitschrift für Metallkunde (West Germany) 1960, v. 51, no. 6, p. 322-326.

DESCRIPTORS: *Oxides, *Nickel alloys, *Iron alloys, *Chromium alloys, Spinel, *Electron diffraction analysis, Thin films, Chemical analysis.

A report is given on the composition of oxide layers of 300 to 500 Å and 10 to 30 μ thickness on 80-20, 60-15, and 30-20 NiCr alloys. The 10 to 30 μ thick (Metallurgy--Corrosion, TT, v. 10, no. 10) (over)

63-18592

I. Pfeiffer, I.

Office of Technical Services

The Influence of Sulfur on the Eutectic of
Lead-Antimony Alloys, by K. Knolle, K.
Lohberg, 6 pp.

GERMAN, per, Z Metallkunde, Vol LI, No 6,
1960, pp 350-353.

ATB-88M43G

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Sci
May 62

Vol 4, No 10

<p>Dehlinger, U. PREFORMED NUCLEI IN TRANSFORMATIONS AND PRECIPITATIONS, 16 Mar 61 [12]p. 20 refs. Order from SLA \$1.60</p> <p>Trans. of <u>Zeitschrift für Metallkunde</u> (West Germany) 1960, v. 51, no. 6, p. 353-365. Another translation is available from FRI as FR Trans-148 [1961]</p> <p>DESCRIPTORS: *Phase transitions, *Crystallization, *Single crystals (Metallurgy)</p> <p>Preformed nuclei are nuclei existing in stable or meta- stable thermodynamic equilibrium above the equi- librium temperature for a transformation and growing slowly as the temperature falls; they only become capa- ble of unlimited growth at a definite "martensite temper- ature" lying below the equilibrium temperature, as demonstrated by a discussion of the thermodynamics. In the cobalt transformation the stacking faults consti- (over)</p>	<p>61-16094</p> <p>I. Title: Preformed nuclei I. Dehlinger, U.</p> <p>175233</p> <p>Office of Technical Services</p>
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Investigation of Precipitation and Ageing in an
Al-Ge Alloy, by H. Baum.

GERMAN, per, Z. Metallkunde, Vol LI, No 7,
1960, pp 409-413.

Ot 7012

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SMA 62-14579

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FBI TL-12

Direct Determination of Average Particle Size
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Point Counter Equipped With an Eyepiece
Attachment, by Gunther Schneider, 13 pp.

GERMAN, per, Z Metallkunde, Vol LI, 1960,
pp 414-420.

AEC Tr-4373

Sci - Min/Met
Apr 61

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The Recrystallization of Pure and Low-Alloyed Cu is
Investigated and Compared With Al, by W. Dahl.
GERMAN, per, Z. Metallkde, Vol 51, 1960, pp 421-432.
*NTIS/USDC/NBS TT 71-55045
Available NBS Only

May 71

The Modification of Recrystallisation and Recovery
in Super-Pure Copper by Impurities, by J. Geissler.
GERMAN, per, Zeit fuer Metall, vol. 51, 1960,
pp.421-423.
NTC 71-12951-11F

JULY 71

<p>Seeger, A. and Träuble, H. THE PLASTIC DEFORMATION OF ZINC SINGLE CRYSTALS (Die Plastische Verformung von Zinkkristallen) tr. by D. A. Sinclair. 1961, 54p. 39 refs. NRCC Technical trans. no. 955. Order from NRCC \$3.00 NRCC C-3677 Trans. of Zeitschrift für Metallkunde (West Germany) 1960, v. 51, no. 8, p. 433-456. DESCRIPTORS: *Zinc, *Single crystals, Deformation, Plasticity, Stresses, Hardening. (Metallurgy--Structural, TT, v. 6, no. 5)</p>	<p>61-25000 I. Seeger, A. II. Träuble, H. III. NRCC TT-955 IV. NRCC C-3677 V. National Research Council of Canada 180603 Office of Technical Services</p>
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Measurement of the Electron Emission with a
Metallic-Surface Microscope, by Karl H. Gaukler,
6 pp.
GERMAN, per, Z Metallkunde, Vol 51, 1960,
pp 463-466.
AEC/UCRL-Tr-10434-69

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Apr 70

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Raub, E. and Plate, W. IRON-RUTHENIUM ALLOYS. [1960] 7p. Order from ATS \$10.90 Trans. of <i>Z[eitschrift fü]r Metallkunde (West Germany)</i> 1960, v. 51, no. 8, p. 477-481. <i>143,136</i> (Metallurgy, TT, v. 5, no. 1)	61-12100 I. Iron-ruthenium alloys-- Properties I. Raub, E. II. Plate, W. III. ATS-53M45G IV. Associated Technical Services, Inc., East Orange, N. J.
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Determination of Gases in Metals by Hot-Extraction-
Process Using Gas Chromatography, by R. Lesser,
H. Gruber.

GERMAN, per, Z fuer Metallkunde, Vol LI, Sep 1960,
pp 495-501.

BIBI 2079

Sci - Chem; Min/Met

150, 835

May 61

The Representation of Fiber Textures in
Reciprocal Pole Figures, by Hans-Joachim Bunge.

GERMAN, per, Z. Metallkunde, No 51, 1960,
pp 535-536. 9204988

CSIRO/No. 8074

AEC-Tr-5603

Sci - Chem

Apr 63

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Elasticity and Plasticity of an Austenitic
CrNi Steel, by K. Salmutter, F. Stangler.

GEDMAN, per, Z fuer Metallkunde, Vol LI, No 9,
1960, pp 544-548.

CEGB 2066

Sci - Chem
Jul 62
List No 57

203, 434

Hillmann, Hans and Mager, Albrecht.
PRODUCTION OF SINGLE CRYSTALS OF IRON BY
THE ZONE-MELTING PROCESS [Erzeugung von
Eiseneinkristallen durch das Zonenschmelzverfahren].
[1962].

Order from K-H \$7.50

K-H 10963

Transl. of Zeitschrift für Metallkunde (West
Germany) 1960, v. 51, no. 11, p. 663-666.
Other translations are available from SLA \$1.60 as
61-18299 [1961] [16]p; and from BISI & 3 as BISI-2146
[1961]; partial translations (p. 663-664) are available
from SLA \$1.60 as 61-20447 [1961] [11]p; and
(p. 664-665) from SLA as 62-10319 [1961] [10]p.

DESCRIPTORS: *Iron crystals, Single crystals,
Crystals, Production, *Zone melting.

62-17373

- I. Hillmann, H.
- II. Mager, A.
- III. K-H-10963
- IV. Kreage-Hooker Science
Library Associates,
Detroit, Mich.

(Metallurgy, TT, v. 8, no. 5)

Office of Technical Services

Metallographic Preparation of Precious Metal
Samples, by G. Reinacher, 6 pp.

GERMAN, per, Z. Fur Metallkunde, Vol ~~XLVII~~
XLVII, No 9, 1960, pp 607-613.

CSIRO

Sci - Min/Met
Nov 61

174, 405

Preparation of Iron Single Crystals by Zone
Melting, by H. Hillman, A. Wagner.

GERMAN, per, Z. fuer Metallkunde, Vol LI, Nov
1960, pp 663-666.

Sci - Min/Met

May 61

RISI 2146
61-20447 (partim)
150,836
62-10319 (partim)

	62-10319
Hilimann, H[ans] and Mager, A[lbrecht]. [PRODUCTION OF SINGLE CRYSTALS OF IRON BY THE ZONE - MELTING PROCESS]; MEASUREMENTS OF ORIENTATION [Erzeugung von Eiseneinkristallen Durch das Zonenschmelzverfahren]; (Orientierungs- messungen). [1961] [10]p. (foreign text included) S refa. Order from SLA \$1.10	I. Hilimann, H. II. Mager, A. III. Titel: Measurements ...
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Partial trans. (p. 664-666) of Zeitschrift für Metallkunde [West Germany] 1960, v. 51, no. 11, p. 663-665.	
Another partial trans. (p. 663-664) is available from SLA \$1.60 as 41-20447 [1961] [11]p. Complete translations are available from SLA \$1.60 as 61-18299 [1961] [16]p. and BISI 3 as BISI-2146 [1961].	
(Metallurgy, TT, v. 7, no. 5)	(over)
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Thermal Stressing of a Mandrel During the Extrusion
of Tubes, by B. Leifeld.

GERMAN, per, Z fuer Metallkunde, Vol LI, Dec 1960,
pp 674-676.

BISI 2302

Sci - Min/Met

Jul 61

161,031

Hartmann, Randolph J. and Macherauch, Eckard.
INVESTIGATIONS OF SLIP PROCESSES IN SINGLE
CRYSTALLITES OF POLYCRYSTALLINE COPPER
SAMPLES (Untersuchung von Gleitvorgangen in
Einzekristalliten Vielkristalliner Kupferproben).
(1961) [25]p. (foreign text included) 11 refs.
Order from SLA \$2.60

61-20085

I. Hartmann, R. J.
II. Macherauch, E.

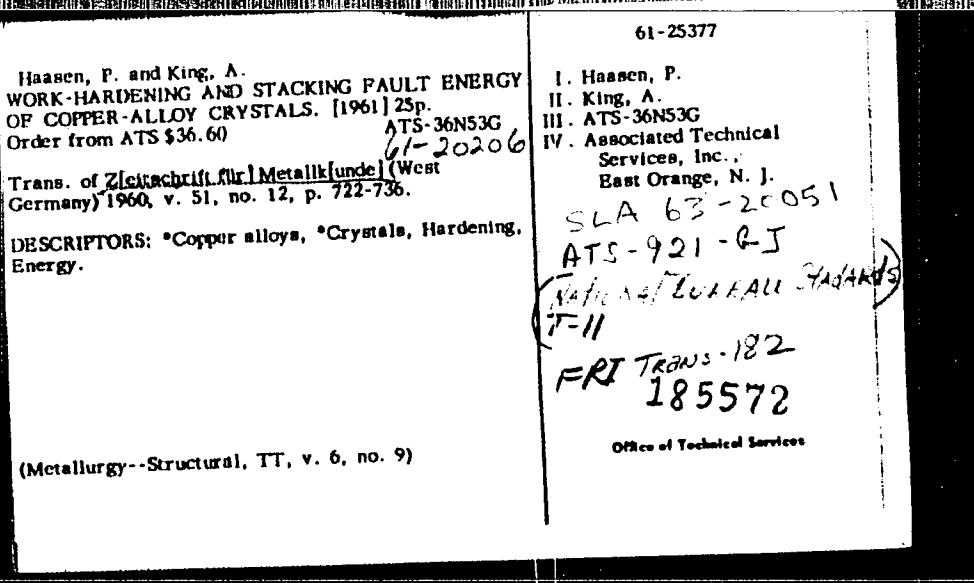
Trans. of Zeitschrift fur Metallkunde (West
Germany) 1960, v. 51 [no. 12] p. 694-699.

DESCRIPTORS: *Copper, Crystals, *Single crystals,
Deformation, Shear stresses, Plastic flow.

The slip planes activated during tensile deformation of
polycrystalline pure copper specimens have been de-
termined from slip band direction and crystallite
orientation. In many cases, slip took place only in
others than the primary system. The effective
(Physics--Solid State, TT, v. 7, no. 1) (over)

61-20085

Office of Technical Services



Grain-Boundary Structure and Recrystallisation,
by K. Lünke.

GERMAN, per, Zeits für Metallkunde, Vol LII,
No 1, 1961, pp 1-12.

CBIB 2046

Bei - Chem
Feb 63

222,507

The Movement of Large-Angle Grain Boundaries on
Recrystallization, by P. A. Beck.

GERMAN, per, Zeits fuer Metallkunde, Vol LII,
No 1, 1961, pp 13-19.

CEGB 2047

Sci.
Min/Met
Jan 63

220, 879

Hornbogen, Erhard.
SEPARATION OF IRON-MOLYBDENUM AND IRON-TUNGSTEN SOLID SOLUTIONS (Entmischung von Eisen-Molybdän- und Eisen-Wolfram-Mischkristallen). [1961] [35]p. (foreign text included) 35 refs. Order from SLA \$3.60 61-20073

Trans. of *Z[eitschrift für] Metallk[unde]* (West Germany) 1961, v. 52, no. 1, p. 47-56.

DESCRIPTORS: Separation, *Iron, *Molybdenum, *Tungsten, Solids, Solutions, Decomposition, Lattices, Particles, Precipitation, Temperature, Hardness, Crystal structure, Alloys, Metalurgical analysis.

A special type of discontinuous decomposition has been found in supersaturated solid solutions of iron and molybdenum or tungsten. Starting from various (Physics--Solid State, TT, v. 7, no. 8) (over)

61-20073

I. Hornbogen, E.

07/26/1980

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Office of Technical Services

Problems of Modern Techniques in Metal Rolling,
by O. H. C. Messner.
GERMAN, per, Z. Metallk, Vol 52, No 1, 1961,
pp 57-58.
GB/160

Sci -
Jul 67

33⁴, 34⁴

ROID AND TUBE DRAWING ON MODERN
DRAWBENCHES, BY H. MAKELT.

GERMAN, PER, Z FUER METALLKUNDE, VOL LII,
JAN 1961, PP 69-75.

BISI 2408

SCI
WEUR - GERMANY
ECON
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172,270

Problems of Modern Techniques in Metal Rolling,
by O.H.C. Messner.
GERMAN, per, Z. Metallk., Vol 52, 1961, pp 57-58.
GB/160

Sci -
Jul 67 334,325

Kinetics of Segregation Processes in Supersaturated
Mixed Crystals of Aluminum - Zinc, by Volkmar
Gerold, Werner Schweizer, 24 pp.
GERMAN, per, Zeitschrift fuer Metallkunde, 9226259,
Vol LII, 1961, pp 76-85.
AEC ANJ-tr-143

292,668

Sci-Materials & Metallurgy
Nov 65

Troost, Alex and Hölling, Karlheinz.
REMARKS ON A FEW THEORETICAL PLASTICITY FUNDAMENTALS OF STRIP ROLLING AND A SIMPLIFIED CALCULATION OF THE NO-SLIP POINT
(Bemerkungen über einige Plastizitätstheoretische Grundlagen des Bandwalzens und eine Vereinfachte Berechnung der Fließscheidenlage) [1961] [26]p.
(foreign text included) 11 refs.

Order from SLA \$2.60

61-20074

Trans. of Zeitschrift für Metallkunde (West Germany), 1961, v. 52, no. 2, p. 95-100.

DESCRIPTORS: *Rolling mills, *Plasticity, Design, Torque, Metals, Stresses, Mechanical properties, Friction, *Aluminum, *Steel, Processing

The use of dynamic and kinematic variables which describe the mechanical state of a differential element of (Metallurgy, TT, v. 7, no. 5)
(over)

61-20074

I. Troost, A.
II. Hölling, K.

Office of Technical Services

The Electrical Resistance of Metallic Melts, by
A. Roll.
GERMAN, per, Zeitschrift fuer Metallkunde, Vol 52,
No 2, 1961, pp 111-120.
NTC-71-12379-11F

Mary J. 314/NRL 886 27 JP

Nov 71

On the Heat Treatment of Two-and Three-
Component Alloys on the Basis of Magnesium
Zirconium in Hydrogen, by Hans-Joachim Taschow,
9 pp.

GERMAN, per, Z fuer Metallkunde, Vol LII, No 2,
1961, pp 135-141.

Dept of Interior
TN/E57 No 639

Sci - Mat & Met
Apr 63

229,397

Principles of Development of Cold Rolling
(Reducing) Process for Manufacture of Steel
Tubes, by F. Zeumert.

GERMAN, part, Z fuer Metallkunde, Vol LIV,
Mar 1963, pp 152-157.

SLIST 2470

SCL - Enggr

176-757

Dec 63

TT - 65 - 17157

Investigation of Vacancies and Phase Separation in
the System Copper-Nickel by Means of the Electrical
Resistance, by Wolfgang Schuele, Hans-Peter Kehrer,
40 pp.
GERMAN, per, Z fuer Metallkunde, Vol LII, 1961,
pp 168-179. 9222961
ARC-Tr-6347

Sci-Mar & Met
Jun 64

.260,498

Surface Diffusion During Sintering of
Unpressed Powders, by K. Torkar, et al.

7 pp.

GERMAN, per, Z. Metallkde., 52, 1961

pp. 209-215.

*CPSTI TT 70-58112

AVAILABLE FROM NBS ONLY

Sci/phys
Apr 70

The Theory of Sintering With Regard to Effects
in Powder Metallurgical Production of Thermo-
electric Materials. II. Experimental Methods
and Experimental Data, by Friedrich Wendler,
Horst Schreiner, 16 pp.

GERMAN, per Z fur Metallkunie, Vol LII, No 4,
1961, pp 224-225.

Sci
Mar 62
Vol VIII, No 3

SLA 61-20754

-TK-E99

188, 089

Internal Stresses in Metallic Uranium Caused by
Faulty Boring, by H. Buhler, W. Schreiber.

GERMAN, per, Z. Metallkunde, Vol LII, No 4, 1961,
pp 270-275.

*U.K. Atomic Energy Authority
Rigley, TRG Inf Series 69(R)

S

Sci - Min/Metals
Nov 61

Investigation of Low Temperature Separation Process
In an Aluminium Alloy Containing 10% by Weight of
Mg., by H. Cordier, K. Detert.
GERMAN, per, Z. Metallkunde, Vol. 52, No. 5, 1961,
IRC/Ref. C-361

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334-391

Gruber, H.
PROCESS VARIATIONS. Pt. 1 of the Melting of Metals
with Electron Beams. [1961] 33p.
Order from ATS \$45. 40

ATS-77N56G

Trans. of Z[eitschrift für] Metallkunde (West Germany)
1961, v. 52, no. 5, pp. 291-309.

DESCRIPTORS: *Electron beams, *Metals, Melting,
Liquid metals, Processing.

7
62-12225

- I. Gruber, H.
- II. Title: Melting ...
- III. ATS-77N56G
- IV. Associated Technical Services, Inc.,
East Orange, N. J.

ATS-919-GJ

(Metallurgy, TT, v. 7, no. 4)

Office of Technical Services

Alexander, Helmut.

PLASTIC DEFORMATION OF GERMANIUM SINGLE CRYSTALS. [1961] 15p. 39 refs.
Order from SLA \$1.60

62-10074

Trans. of Z[eitschrift für] Metallkunde (West Germany) 1961, v. 52, no. 5, p. 344-352.
Another trans. is available from ATS \$28.25 (\$3.95)
as ATS-14N55G [1961] 15p.

DESCRIPTORS: *Germanium, *Single crystals, *Deformation; Plastic flow.

The entire stress-strain curve of germanium single crystals was determined during tensile experiments in the temperature range of 470 to 800°C and at elongation rates varying over three orders of magnitude. Qualitatively, marked agreement was found with the behavior of face-centered cubic metals, particularly (Physics--Solid State, TT, v. 7, no. 4) (over)

62-10079

I. Alexander, H.

ATS-898-GJ

Office of Technical Services

The Yield Point Single Crystals of δ -Iron, by
M. Evers.

GERMAN, per, Z fuer Metallkunde, Vol LII, May 1961,
pp 359-364.

NISI 2593

Sci - Chem

196, 195

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<p>Thielmann, K. HARDNESS AND SPRING BACK OF METAL WIRES. [1962] Sp. (4 figs. 1 table [refs.] omitted). Order from SLA \$1.10</p> <p>62-14632</p> <p>Trans. of Zeitschrift für Metallkunde (West Germany) 1961, v. 52, no. 5, p. 368-370.</p> <p>DESCRIPTORS: *Wire, *Copper wire, Metals, Hardness, Hardening, Deformation, Heat treatment, Elasticity.</p> <p>A simple apparatus is described which allows the de- termination of torsional back spring on wires. This method, because of its high sensitivity and simple de- sign may, in some cases, replace penetration hardness measurements. The Brinell hardness is related in a straightforward manner to the torsional back spring and the modulus of elasticity. (Author)</p> <p>*Metallurgy, TT, v. 8, no. 8</p>	<p>62-14632</p> <p>I. Thielmann, K.</p> <p>Office of Technical Services</p>
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Phenomena Occuring After the Selective Oxidation
of Binary and Ternary Alloys, by H. Pfeiffer.
GERMAN, per, Zeitschrift fuer Metallkunde, vol. 52,
no. 7, 1961, pp. 481-488.
NTC 71-12921-11F

B1PL 2867

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Precipitation Hardening During Discontinuous
Precipitation, by H. Bohn.

GERMANY, per, Zeitschrift fur Metallkunde, LII,
No 8, 1961, pp 512-517.

CLASS 2504

Sci - M/M
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343,418

Evaluation of Measurements of Film Thickness of Binary
Alloys With Internal Oxidation and Simultaneous External
Oxidation, by F. Maak.
GERMAN, per, Zeitschrift fur Metallkunde, Vol 52, 1961,
pp 545-546.
Risley trans 2180

sci/mechan engr
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Stress Corrosion Tests on AlZnMg₃ Under
Constant Tension and Bending, by P. Brenner,
W. Grubl.

GERMAN, per, Zeit Fuer Metallkunde, Vol 52,
No 10, 1961, pp 599-607.

FRI-Trans-187

Sci-Materials
Oct 66

313,206

Ginsberg, Hans and Neunzig, Heinrich.
THE STRUCTURE AND BRIGHTNESS OF 99.9% ALUMINUM AND ITS ALLOYS. [1962] 12p. (13 figs. omitted) 3 refs.
Order from SLA \$1.60

62-14837

Trans. of Zeitschrift für Metallkunde (West Germany)
1961, v. 52, no. 10, p. 626-631.

DESCRIPTORS: *Aluminum, *Aluminum alloys, Microstructure, *Brightness, Electrolytic polishing.

Investigations show that the surface brightness of AlMg alloys, based on 99.9% Al, depends primarily on the as-cast structure. The optimum structure is homogeneous and has an equiaxed grain size. It remains fine grained even after homogenizing for 8 to 10 hours at about 1100° F. The forging temperature is of major importance in obtaining a structure-free sheet surface. Homogenized sheet ingots have to be cold (Metallurgy--Structural, TT, v. 8, no. 3) (over)

62-14837'

I. Ginsberg, H.
II. Neunzig, H.

Office of Technical Services

Segregation Processes in the Aluminum-Silver System, by Reinhold Baur, Volkmar Gerold.
GERMAN, par., Zeit. Metall., Vol 52, No 10,
pp 671-676, 1961 9229949
AEC ORNL-Tr-636

Sci-M&M
Oct 65

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<p>Eichenauer, Walter, Hattenbach, Karl, and Pebler, Alfred. THE SOLUBILITY OF HYDROGEN IN SOLID AND MOLTEN ALUMINUM (Die Löslichkeit von Wasser- stoff in Festem und Flüssigem Aluminium). [1962] [18]p. (foreign text included) 12 refs. Order from SLA \$1.60</p> <p>Transl. of Zeitschrift für Metallkunde (West Germany) 1961, v. 52, no. 10, p. 682-694.</p> <p>DESCRIPTORS: *Aluminum, Melting, Liquid metals, Solids, *Hydrogen, Solubility.</p> <p>The hydrogen absorption of pure aluminum between 300°C and 1050°C has been calculated from the temporal process of degassing. The following relation stands for solid aluminium: $\log l = 0.521 - (3042/T)^{-1/2}$ $\log p(l \text{ in } \text{cm}^3 \text{ NTP}/100g, p \text{ in Torr, } T \text{ in } ^\circ\text{K})$. The (Metallurgy-Light Metals, TT, v. 8, no. 6) (over)</p>	<p>62-16175</p> <p>I. Eichenauer, W. II. Hattenbach, K. III. Pebler, A.</p> <p>62-16175</p> <p>Office of Technical Services</p>
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Precipitation in β Titanium-Vanadium Alloys,
by O. Krissmann.

GERMAN, per, Z fuer Metallkunde, Vol LII, No 10,
1961, pp 695-703.

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Koster, W. and Hingmann, D.
SOLID SOLUTIONS OF PALLADIUM AND NEIGHBORING ELEMENTS IN THE PERIODIC SYSTEM. Pt. 16 of Conductivity and Hall Constant. [1962] 11p.
Order from ATS \$21.80 ATS-53PS96

Trans. of Zeitschrift für Metallkunde] (West Germany) 1961, v. 52, no. 11, p. 721-727.

DESCRIPTORS: •Palladium, Solids, Solutions, Chemical elements, Conductivity.

62-17162

I. Koster, W.
II. Hagmann, D.
III. Title: Conductivity...
IV. ATS-53P59G
V. Associated Technical
Services, Inc.,
East Orange, N. J.

ATS - 924-GJ

(Metallurgy--Nonferrous Metals, II, v. 8, no. 4)

Office of Technical Services

Hagmann, D.
APPLICATION OF THE TWO-BAND MODEL TO THE
ELECTRIC PROPERTIES OF PALLADIUM. p. 17 of
Conductivity and Hall Constant. [1962] 15p.
Order from ATS \$21.85

ATS-54P59G

Trans. of Z[eitschrift für] Metallk[unde] (West
Germany) 1961, v. 52, no. 11, p. 727-735.

DESCRIPTORS: *Palladium, Electrical properties,
Conductivity.

62-17167

I. Hagmann, D.
II. Title: Conductivity...
III. ATS-54P59G
IV. Associated Technical
Services, Inc.,
East Orange, N. J.

ATS-925-CJ

(Metallurgy--Nonferrous Metals, TT, v. 8, no. 4)

Office of Technical Services

Electron Microscopic Investigation of Various
Agglomerates in Quenched Face-Centered Cubic
Crystals, Particularly in Ni - Co Alloys, by
Siegfried Hader, Alfred Seeger, et al., 31 pp.

SCHMIDT, 1951, Zeits Metallkunde, Vol 43, 1951,
pp 765-794. 1951 9212457

AEC-Tr-5843

Sci - Mat & Met

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The Possibility of Damping Measurements to Study
Metals, by W. Koster.
GERMAN, per, Z. Metallkde., Vol 53, 1962,
pp 17-26.
*NTIS/USDC/NBS TT 71-55062
Available NBS Only

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The Spreading of Liquid Metals on the Surface of Solid
Metals, § I.

GERMAN, per, Zeitschrift Fur Metallkunde, Vol LII, No 2,
1962, pp 122-130.

*AERE-Harwell-1952

Sci - M/M
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Mechanical Damping Due to Magnetic Processes, by
H. Franz.
GERMAN, per, Zeitschrift fuer Metallkunde, Vol 53,
No 1, 1962, pp 27-37.
NTC-71-12074-20C

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NITROGEN-CONTAINING ALLOYS OF THE TRANSITION METALS
MANGANESE, IRON, COBALT AND NICKEL WITH CALCIUM,
GERMANIUM, INDIUM AND TIN, BY H. H. STADELMAYER,
A. C. FRAKER.

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BISI 2905

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Review of Present Position of the French
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H. Wronski.

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Contribution to the Technology of Stainless
Sinter Steels, by R. Reinstadler.
GERMAN, per, Zeitschrift fuer Metallkunde, Vol 53,
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NTC 71-14420-11F

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The Spreading of Liquid Metals on the Surface of
Solid Metals. I. Spreading Under Surface Layers, by
T. Heumann, K. Forch, 44 pp.
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AEC-NP-Tr-1099

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NYC 71-157059-111
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Growth of Whiskers on Tungsten Crystals. Extract
from Growth and Orientation of Tungsten Whiskers,
by H. Ahlbom, G. Wassermann.

GERMANN, per, Z fuer Metallkunde, Vol LIII, No 2,
1962, pp 132-134.

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Research into the Metal Arc Spraying Process, by
A. MATTING and H. D. Steffens.

GERMAN, por, Zeitschrift fur Metallkunde,
Wien Vol LXXXI, 1962, pp 138-144.

BISI 3116

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A Deformation g(Strain) Apparatus for the Measurement
of the Electrical Resistances of Metals at Lowest
Temperatures, and Investigations Into the Plastic
Behavior of Copper Monocrystals, by Wolfgang
Schulte, Otto Bock, 17 pp.

GERMAN, per, Z. fuer Metallkunde, Vol LIII,
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ABC MM: SCL-T-434

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The Diffusion and Solubility of Oxygen in Ag.
by W. Eichensauer.
GERMAN, per, Z Metallkde, No 53, 1962, pp 321-
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*NBS TT 70-57415

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Solubility and Diffusion of Hydrogen in Pd and
Pd Alloys, by G. F. P. Muller.
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pp 449-453.
*NTIS/USDC/NBS TT 71-55066
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Low Temperature Martensite in Beta-Brass. III.
The Disorder Structure of the Beta-Phase, by
G. Kunze.
GERMAN, per, Zeitschrift fuer Metallkunde,
Vol. 53, No. 3, 1962, pp 565-576
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The Influence of Internal Stresses and of
the Magnetic Field on the Magnetic Domain
Structure of Iron-Silicon Single Crystals,
by H. Trauble.

GERMAN, per, Z fuer Metallkunde, Vol 5LIII,
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On the Constitution of Uranium-Silicon-Aluminium
Alloys Rich in Uranium, by G. Petzow, I. Krangs.

GERMAN, per, Zeit Metallkunde, Vol LIII, No 4,
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Preferred Heated in the Manufacture of Iron
Single Crystals by the Zone-Melting Process
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by H. Hillmann.

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The Quasi-Binary System UFe₂-UA₁₂, by G. Petzow,
et al.,
GERMAN, per, Z fuer Metallkunde, Vol LIII, No 4,
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GERMAN, per, Z fuer Metallkunde, Vol LIII, No 5,
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Development of a Corrosion-Resistant Nickel-Chromium Molybdenum Alloy With Segregation Inertia, by Immanuel Class, Hubert Grafen, et al. GERMAN, per, Z. Metallkde., Vol 53, No 5, 1962, pp 283-293. 9233388
AEC ORNL-tr-1114

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Stacking Fault Energy and Thermally Activated
Flow of Silver Monocrystals, by Manfred Ahlers,
Peter Haasen, *13M9*.

GERMAN, per, Zeitschrift fuer Metallkunde, Vol LIII,
No 5, 1962, pp 302-309.

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The Crystal Structure and Composition of Oxide Layers on Iron-Chromium-Aluminum Alloys as a Function of the Thickness of the Oxide Layer,
by I. Pfediffer, 8 pp.

GERMAN, per, Zeitschrift Fur Metallkunde,
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Low Temperature Martensite in Beta-Brass. II.
Structural and Geometrical Relationships on the
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